

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Carns et al.

Title: "Process to Improve High Performance Capacitor Properties in Integrated MOS Technologies"

Appl. No.: 09/351,544

Filing Date: July 12, 1999

Examiner: Paul E. Brock II

TC/Art Unit: 2815

Docket No.: ZIL-204

Fax No.: (703) 308-~~7722~~ 7382 746 3915

October 15, 2003

## PROPOSED CLAIM

Sir:

Applicants will call Examiner for a telephonic interview scheduled for tomorrow at 1 PM EST. Applicants wish to discuss the "undercutting" disclosed in application 09/351,544. Attached are drawings from two references cited in the office action dated August 14, 2003. Applicants propose amending various claims to include limitations describing the undercutting, such as proposed amended claim 3 below:

3. A method of forming a capacitor in an integrated circuit comprising:
- (a) forming a lower electrode layer on a semiconductor body;
  - (b) forming a dielectric layer over a portion of said lower electrode layer;
  - (c) forming an upper electrode layer over a portion of said dielectric layer;
  - (d) removing a portion of said upper electrode layer to expose a portion of said dielectric layer, thereby forming an upper electrode with a lateral boundary, wherein a portion of said dielectric layer is disposed in an inter-electrode region within said lateral boundary of said upper electrode and between said lower electrode layer and said upper electrode; and
  - (e) subsequently removing a portion of said exposed portion of said dielectric layer to expose a portion of said lower electrode layer, wherein a portion of said dielectric layer is removed from said inter-electrode region;
  - (f) subsequently forming a conformal insulating layer over a portion of said exposed portion of said lower electrode layer proximate to said portion of said dielectric layer disposed in said inter-electrode region, whereby a portion of said conformal insulating layer is formed in said inter-electrode region; and
  - (g) forming an anti-reflective layer (ARL) for use in a photolithographic process over a portion of said conformal insulating layer.

dist. prior art  
obj. test  
rec. of problem  
need for invention  
Advantages

Applicants look forward to discussing this proposed claim tomorrow.

Respectfully submitted,

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